

Sieffert, Margaret

From: Sieffert, Margaret
Sent: Wednesday, March 8, 2017 9:32 AM
To: Hall, Charles
Subject: FW: Illinois CISWI questions
Attachments: Final Letter EPA to TDEC in the matter of PHG Energy.pdf

Here is the letter about gasification Marcia referred to...

Although I sent this to you before I wanted to bring it up to your inbox today....

From: Sieffert, Margaret
Sent: Wednesday, March 01, 2017 1:26 PM
To: Hall, Charles <hall.charles@epa.gov>
Subject: FW: Illinois CISWI questions

FYI – here is conversation between Marcia and Nabanita.

From: Mia, Marcia
Sent: Wednesday, March 01, 2017 11:06 AM
To: Modak, Nabanita <Modak.Nabanita@epa.gov>; Ayres, Sara <Ayres.Sara@epa.gov>
Cc: Sieffert, Margaret <Sieffert.Margaret@epa.gov>
Subject: RE: Illinois CISWI questions

My thoughts in red.

Marcia B Mia
Office of Compliance/Air Branch
2227A WJCS
U.S. Environmental Protection Agency
202-564-7042


From: Modak, Nabanita
Sent: Wednesday, March 01, 2017 11:34 AM
To: Mia, Marcia <Mia.Marcia@epa.gov>; Ayres, Sara <Ayres.Sara@epa.gov>
Cc: Sieffert, Margaret <Sieffert.Margaret@epa.gov>
Subject: RE: Illinois CISWI questions

Thanks Marcia.

I went over the process on Terragon's website. Please look at the video on <http://terragon.net/resource-recovery-solutions/energy-from-waste/>

The video is at the bottom of the page.

(b) (5)



(b) (5)



(b) (5)



From: Mia, Marcia
Sent: Wednesday, March 01, 2017 9:56 AM
To: Modak, Nabanita <Modak.Nabanita@epa.gov>; Sieffert, Margaret <Sieffert.Margaret@epa.gov>
Cc: Ayres, Sara <Ayres.Sara@epa.gov>
Subject: RE: Illinois CISWI questions

(b) (5)



Marcia B Mia
Office of Compliance/Air Branch
2227A WJCS
U.S. Environmental Protection Agency
202-564-7042

From: Modak, Nabanita
Sent: Monday, February 27, 2017 4:30 PM
To: Sieffert, Margaret <Sieffert.Margaret@epa.gov>; Mia, Marcia <Mia.Marcia@epa.gov>
Cc: Ayres, Sara <Ayres.Sara@epa.gov>
Subject: RE: Illinois CISWI questions

(b) (5)



(b) (5)

From: Sieffert, Margaret
Sent: Monday, February 27, 2017 4:13 PM
To: Modak, Nabanita <Modak.Nabanita@epa.gov>; Mia, Marcia <Mia.Marcia@epa.gov>
Subject: RE: Illinois CISWI questions

(b) (5)

-Margaret

From: Modak, Nabanita
Sent: Monday, February 27, 2017 10:10 AM
To: Mia, Marcia <Mia.Marcia@epa.gov>; Sieffert, Margaret <Sieffert.Margaret@epa.gov>
Subject: RE: Illinois CISWI questions

(b) (5)

From: Mia, Marcia
Sent: Monday, February 27, 2017 10:44 AM
To: Modak, Nabanita <Modak.Nabanita@epa.gov>; Sieffert, Margaret <Sieffert.Margaret@epa.gov>
Subject: RE: Illinois CISWI questions

(b) (5)

Marcia B Mia
Office of Compliance/Air Branch
2227A WJCS
U.S. Environmental Protection Agency
202-564-7042

From: Modak, Nabanita
Sent: Thursday, February 23, 2017 4:10 PM
To: Sieffert, Margaret <Sieffert.Margaret@epa.gov>; Mia, Marcia <Mia.Marcia@epa.gov>
Subject: RE: Illinois CISWI questions

Hi Margaret,

(b) (5)

Thanks
Nabanita

From: Sieffert, Margaret
Sent: Thursday, February 23, 2017 8:35 AM
To: Modak, Nabanita <Modak.Nabanita@epa.gov>; Mia, Marcia <Mia.Marcia@epa.gov>
Subject: Illinois CISWI questions

Marcia and Nabanita,

(b) (5)

-Thanks, Margaret

From: Jacob Cauble [<mailto:jacob.cauble@am.dynonobel.com>]
Sent: Thursday, February 23, 2017 6:34 AM
To: Sieffert, Margaret <Sieffert.Margaret@epa.gov>
Cc: Fred Jardinico <fred.jardinico@am.dynonobel.com>; Kathleen Blessing <kathleen.blessing@am.dynonobel.com>
Subject: FW: Description of MAGS

Margaret,

Per the correspondence below, I've been working with Bob Bernoteit with IL EPA on the air permitting needs for a gasification system. Dyno Nobel has installed the same system in Missouri and it was determined that no air permitting was needed. I'd like to go through the permitting review process for installation at our plant in Wolf Lake, IL. At the bottom of the email thread, there is a description of the system. Can you offer guidance on what will be needed for the review?

Best regards,
Jacob Cauble, CHMM
Regional Environmental Manager / West

Dyno Nobel Inc.
A business of Incitec Pivot Limited
Carthage Plant, 17562 Gum Road, Carthage, Missouri 64836, USA
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<http://www.dynonobel.com>

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From: Bernoteit, Bob [<mailto:Bob.Bernoteit@Illinois.gov>]
Sent: Wednesday, February 22, 2017 4:04 PM
To: Jacob Cauble <jacob.cauble@am.dynonobel.com>
Cc: Smet, Robert <Robert.Smet@Illinois.gov>
Subject: Description of MAGS

Jacob,

We recommend that you should contact Margaret Sieffert at USEPA Region 5 and/or Nabanita Modak at USEPA OAQPS to get it straight from them as to what rules apply. We think 40 CFR 60 Subpart EEEE does apply, but contacting these USEPA experts on CISWI (we assume they are knowledgeable about incineration/gasification also) will save us both a lot of time. Their email addresses are:

Sieffert.Margaret@epa.gov

Modak.Nabanita@epa.gov

Bob Bernoteit
FESOP Unit Manager,
Illinois EPA, Division of Air Pollution Control - Permit Section

From: Jacob Cauble [<mailto:jacob.cauble@am.dynonobel.com>]
Sent: Wednesday, February 22, 2017 3:45 PM
To: Bernoteit, Bob
Subject: [External] Description of MAGS

Bob,

I included a description of the MAGS unit below based on our application. I don't think it falls into the incinerator classification, but if I'm understanding incorrectly, please let me know. As described, can you provide guidance on what the regulatory requirements are for a gasifier?

The breakdown of waste material begins with a bag of waste being dropped into a heated gasification chamber (gasifier) where high temperatures break down the waste into a solid bio-char and a synthetic gaseous fuel (syngas). Biochar is collected at the bottom of the gasifier while the syngas travels into the combustion chamber where it is ignited. This hot gas produced by combustion re-circulates to maintain the elevated temperature needed to heat the gasifier and continue the gasification process. The exhaust gases are instantly cooled by water and processed through the scrubber to be cleansed of any pollutants. Additionally, the process recovers thermal energy to be reused by the facility in the form of hot water. Additional information can be reviewed at the manufacturer's (Terragon Environmental Technologies, Inc.) website, www.terragon.net, and on the internet by searching Micro Auto Gasification Systems or MAGS.

To begin the process system, diesel or natural gas is used to heat the combustion chamber to 1,100 C. Once this temperature is reached, its exhaust is directed towards a heat exchange zone located at the bottom of the gasifier. The waste within the gasifier heats, dries, and begins gasifying (i.e., producing syngas). When the concentration of syngas is sufficient, the diesel/natural gas burner switches off and the syngas serves as the main fuel for the combustion chamber.

Exhaust gases leave the heat exchange zone below the gasifier at a temperature higher than 700 C and are instantly quenched with water in a Venturi to a temperature less than 80 C. The water quench serves to stop any recombination reactions that may form toxic compounds such as dioxins and furans. By bringing the hot exhaust in contact with water, the Venturi also transfers most particles that may be in the exhaust to the water where they can be recovered in the water purification system. The cold exhaust gas is fed into a packed column caustic scrubber to remove all remaining particulates and acid gases. A condenser is used to remove moisture from the exhaust gas prior to discharge.

The process is complete when all of the organic waste is fully gasified and the production of synthesis gas stops. The residue, which is mostly inorganic carbon in the form of bio-char, is recovered as a sterilized inert material that can be stored or discharged safely.

Best regards,
Jacob Cauble, CHMM
Regional Environmental Manager / West

Dyno Nobel Inc.
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From: Bernoteit, Bob [<mailto:Bob.Bernoteit@Illinois.gov>]

Sent: Friday, February 17, 2017 10:44 AM

To: Jacob Cauble <jacob.cauble@am.dynonobel.com>

Cc: Frost, Brad <Brad.Frost@Illinois.gov>; Stewart, Rachel <Rachel.Stewart@illinois.gov>; Matoesian, Charles <Charles.Matoesian@Illinois.gov>; Dragovich, Ted <Ted.Dragovich@Illinois.gov>; Smet, Robert <Robert.Smet@Illinois.gov>

Subject: Attendees on this morning's conference call

Jacob,

The Agency's attendees on this morning's conference call besides myself were:

Brad Frost, Office of Community Relations;
Rachel Stewart, Office of Community Relations;
Charles Matoesian, Division of Legal Counsel-Air Regulatory Unit;
Ted Dragovich, Bureau of Land-Permit Section;
Bob Smet, Bureau of Air-Permit Section-Major Source Construction Unit

Bob Bernoteit
FESOP Unit Manager,
Illinois EPA, Division of Air Pollution Control - Permit Section

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